FIG.1

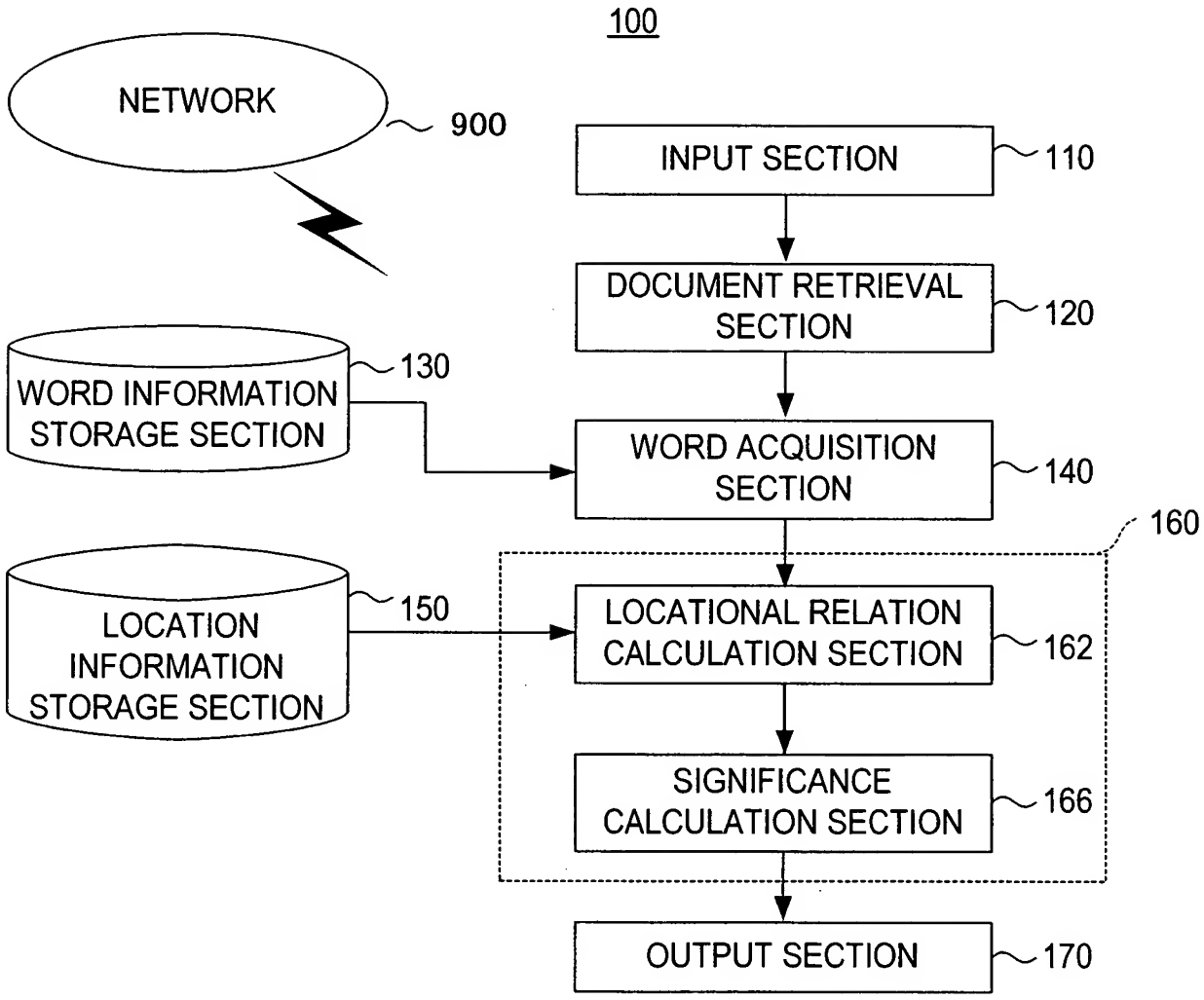

100
NETWORK
900
INPUT SECTION
110
DOCUMENT RETRIEVAL SECTION
120
WORD INFORMATION STORAGE SECTION
130
WORD ACQUISITION SECTION
140
160
LOCATION INFORMATION STORAGE SECTION
150
LOCATIONAL RELATION CALCULATION SECTION
162
SIGNIFICANCE CALCULATION SECTION
166
OUTPUT SECTION
170

FIG.2

IDENTIFIER	WORD INFORMATION	
	WORD	ASSORTMENT
doc1	Fuel Cell	Word
	Taro Tanaka	Personal Name
	○○University	Organization
	・・・	・・・
doc2	△△University	Organization
	Fuel Cell	Word
	Taro Tanaka	Personal Name
	Professor	Official Post
	・・・	・・・
doc3	△△University	Organization
	Automobile	Word
	・・・	・・・
doc4	Hanako Sato	Personal Name
	Fuel Cell	Word
	・・・	・・・
doc5	Hanako Sato	Personal Name
	Fuel Cell	Word
	・・・	・・・
doc6	Taro Tanaka	Personal Name
	Fuel Cell	Word
	・・・	・・・

FIG.3

IDENTIFIER	URL
doc1	http://www.aaa.co.jp/aa/bb/index.html
doc2	http://www.aaa.co.jp/aa/index.html
doc3	http://www.aaa.co.jp/aa/bb/cc/dd/index.html
doc4	http://www.aaa.co.jp/aa/index2.html
doc5	http://www.bbb.co.jp/aa/index.html
doc6	http://www.aaa.co.jp/aa/cc/dd/index.html

FIG.4

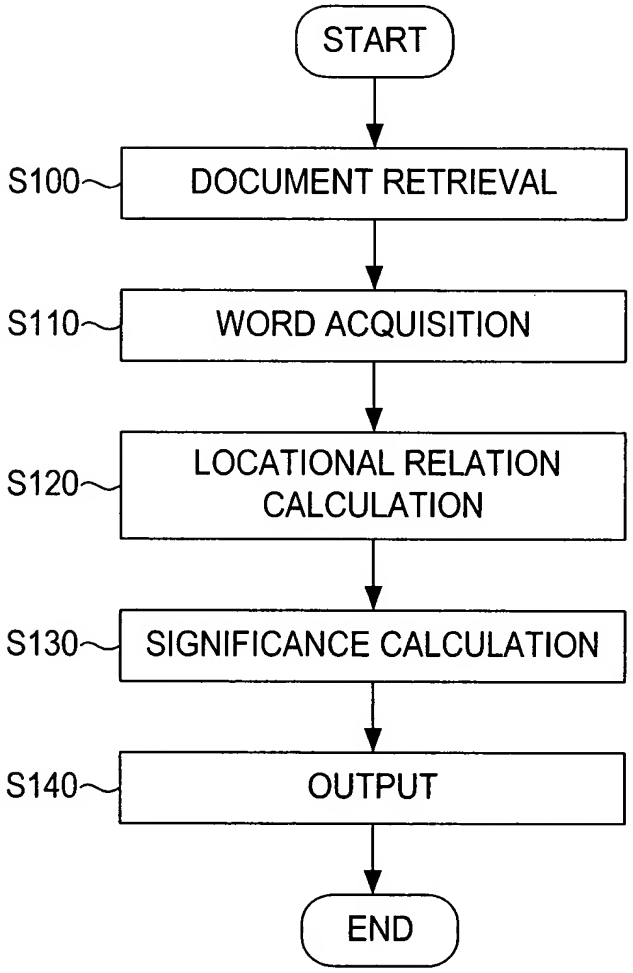

START
S100
DOCUMENT RETRIEVAL
S110
WORD ACQUISITION
S120
LOCATIONAL RELATION CALCULATION
S130
SIGNIFICANCE CALCULATION
S140
OUTPUT
END

FIG.5

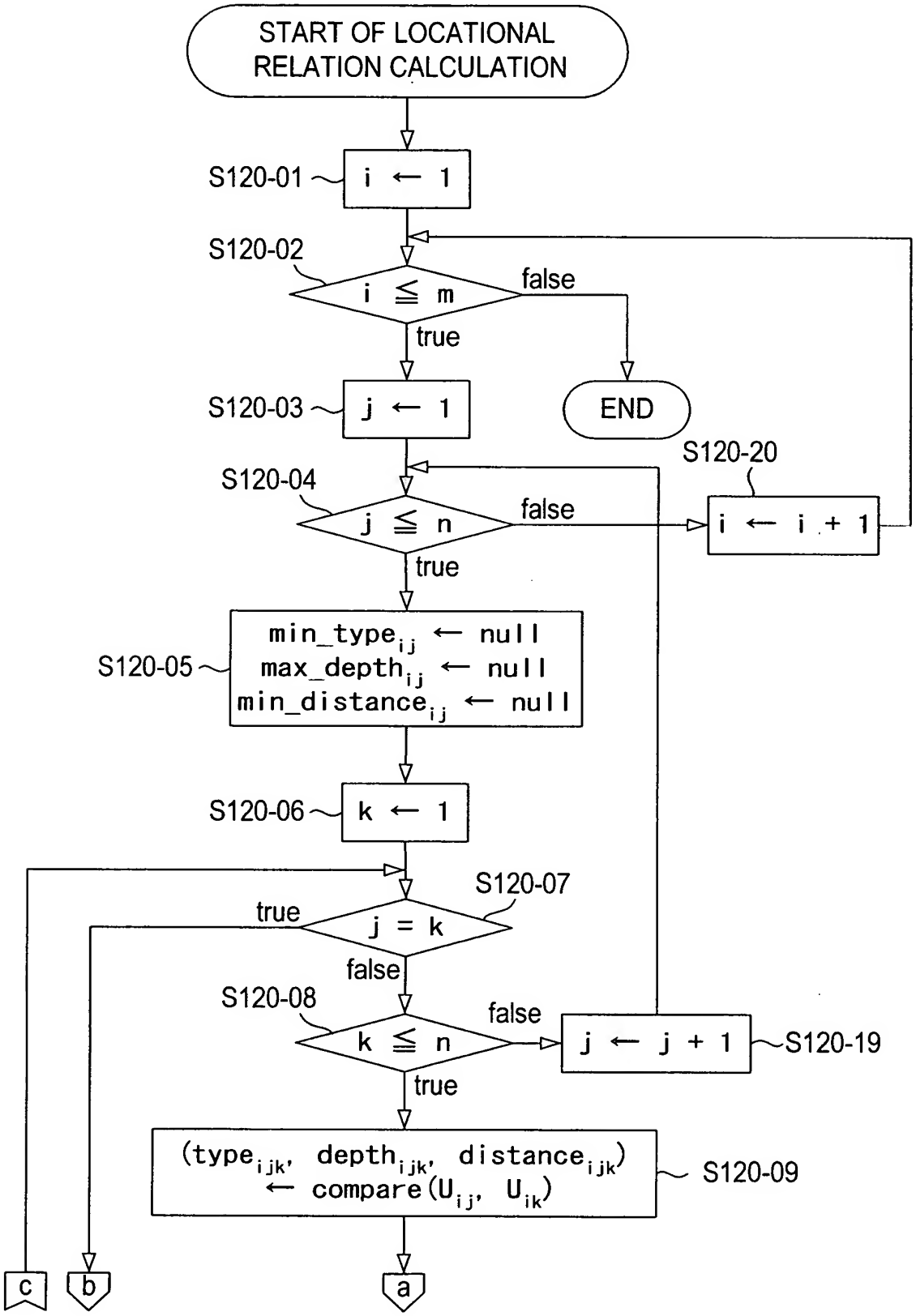

START OF LOCATIONAL RELATION CALCULATION
S120-01
i ← 1
S120-02
i ≦ m
false
true
END
S120-03
j ← 1
S120-20
S120-04
j ≦ n
false
i ← i + 1
true
S120-05
min_type_ij ← null
max_depth_ij ← null
min_distance_ij ← null
S120-06
k ← 1
S120-07
true
j = k
false
S120-08
k ≦ n
false
j ← j + 1
S120-19
true
(type_ijk, depth_ijk, distance_ijk) ← compare(U_ij, U_ik)
S120-09
c
b
a

FIG.6

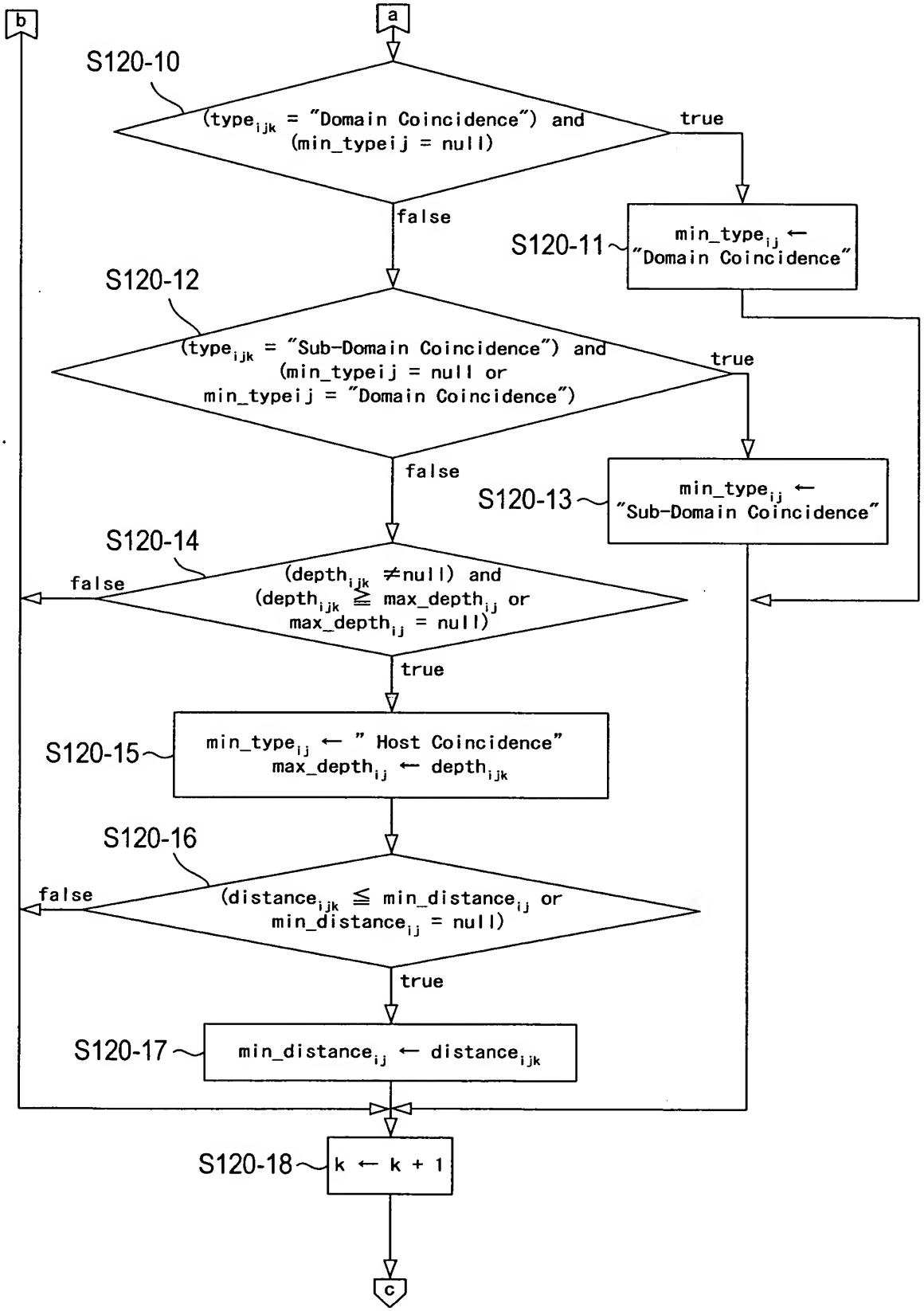

b
a
S120-10
(type$_{ijk}$ = "Domain Coincidence") and (min_typeij = null)
true
false
S120-11
min_type$_{ij}$ ← "Domain Coincidence"
S120-12
(type$_{ijk}$ = "Sub-Domain Coincidence") and (min_typeij = null or min_typeij = "Domain Coincidence")
true
false
S120-13
min_type$_{ij}$ ← "Sub-Domain Coincidence"
S120-14
(depth$_{ijk}$ ≠null) and (depth$_{ijk}$ ≦ max_depth$_{ij}$ or max_depth$_{ij}$ = null)
false
true
S120-15
min_type$_{ij}$ ← " Host Coincidence"
max_depth$_{ij}$ ← depth$_{ijk}$
S120-16
(distance$_{ijk}$ ≦ min_distance$_{ij}$ or min_distance$_{ij}$ = null)
false
true
S120-17
min_distance$_{ij}$ ← distance$_{ijk}$
S120-18
k ← k + 1
c

FIG.7

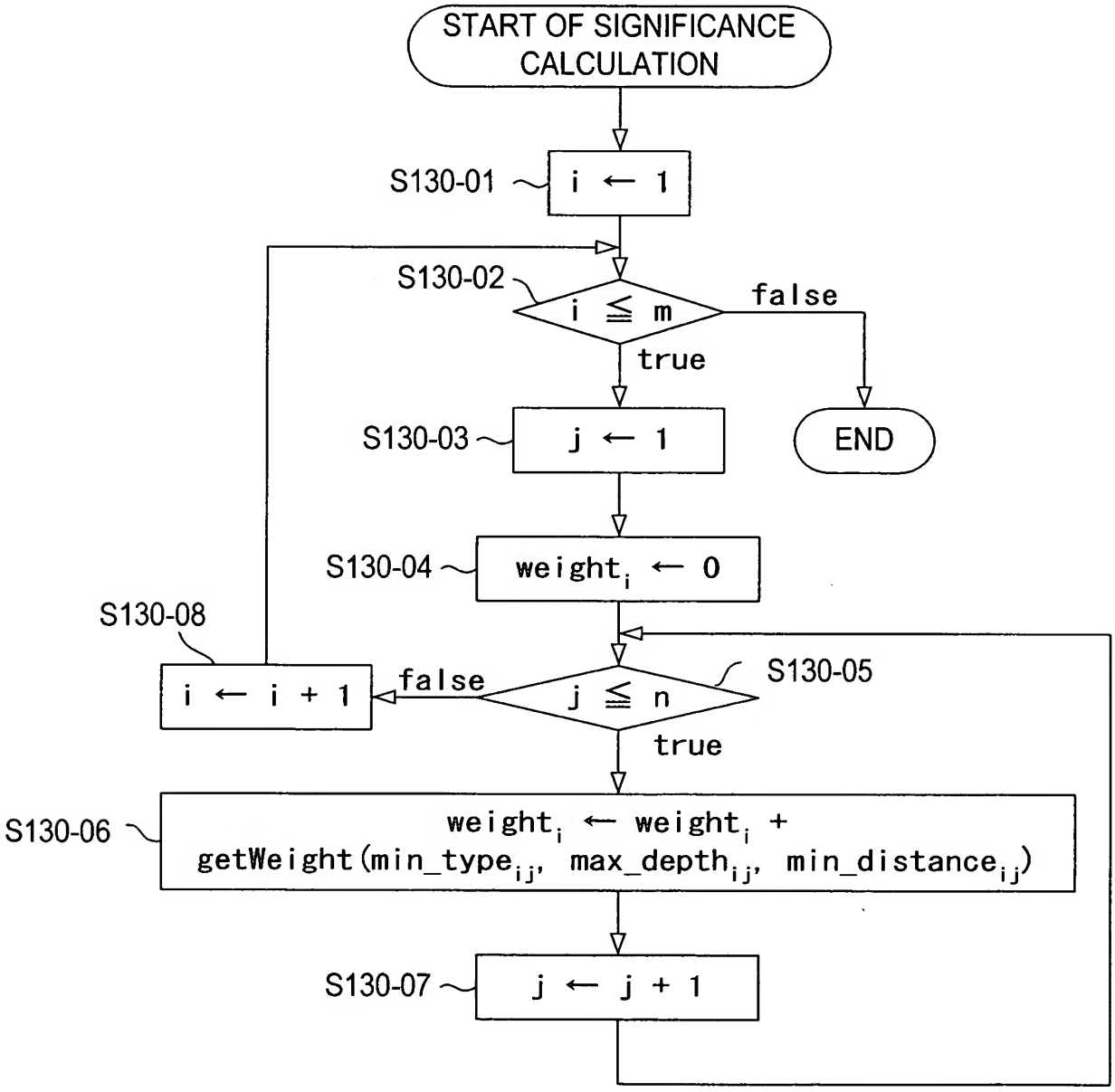

START OF SIGNIFICANCE CALCULATION
S130-01
i ← 1
S130-02
i ≦ m
false
true
END
S130-03
j ← 1
S130-04
weight_i ← 0
S130-08
i ← i + 1
false
S130-05
j ≦ n
true
S130-06
weight_i ← weight_i + getWeight(min_type_ij, max_depth_ij, min_distance_ij)
S130-07
j ← j + 1

FIG.8

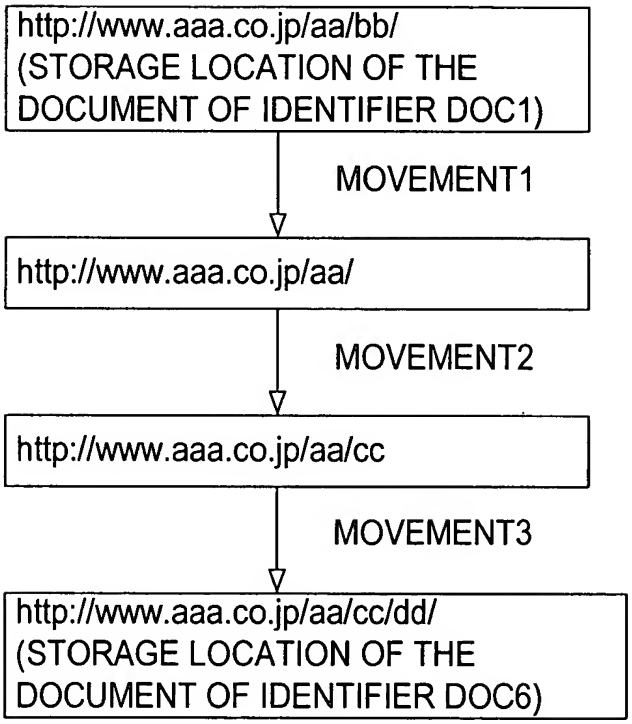

http://www.aaa.co.jp/aa/bb/
(STORAGE LOCATION OF THE DOCUMENT OF IDENTIFIER DOC1)
MOVEMENT1
http://www.aaa.co.jp/aa/
MOVEMENT2
http://www.aaa.co.jp/aa/cc
MOVEMENT3
http://www.aaa.co.jp/aa/cc/dd/
(STORAGE LOCATION OF THE DOCUMENT OF IDENTIFIER DOC6)

FIG.9

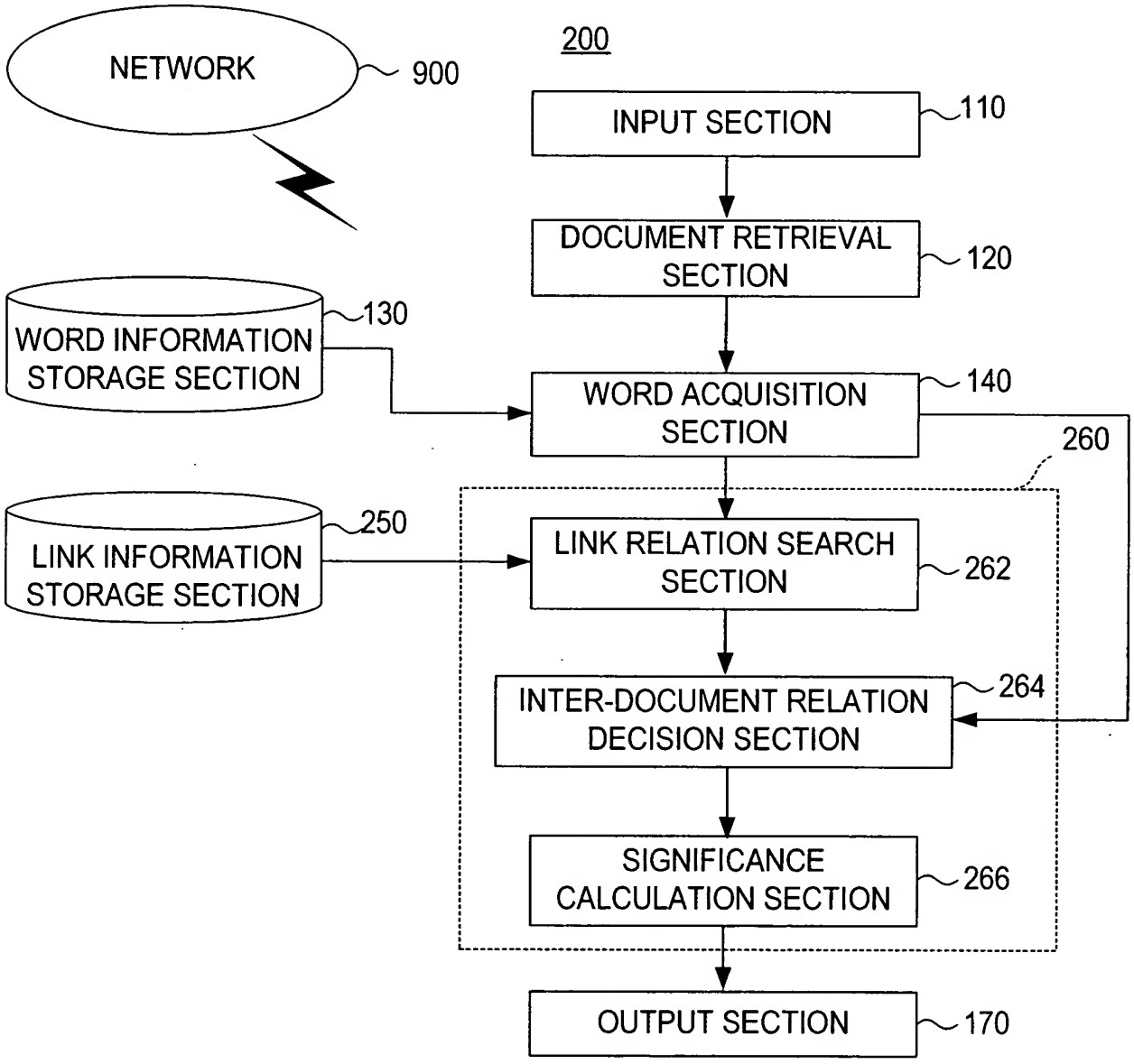

NETWORK
900
200
INPUT SECTION
110
DOCUMENT RETRIEVAL SECTION
120
WORD INFORMATION STORAGE SECTION
130
WORD ACQUISITION SECTION
140
260
LINK INFORMATION STORAGE SECTION
250
LINK RELATION SEARCH SECTION
262
INTER-DOCUMENT RELATION DECISION SECTION
264
SIGNIFICANCE CALCULATION SECTION
266
OUTPUT SECTION
170

FIG.10

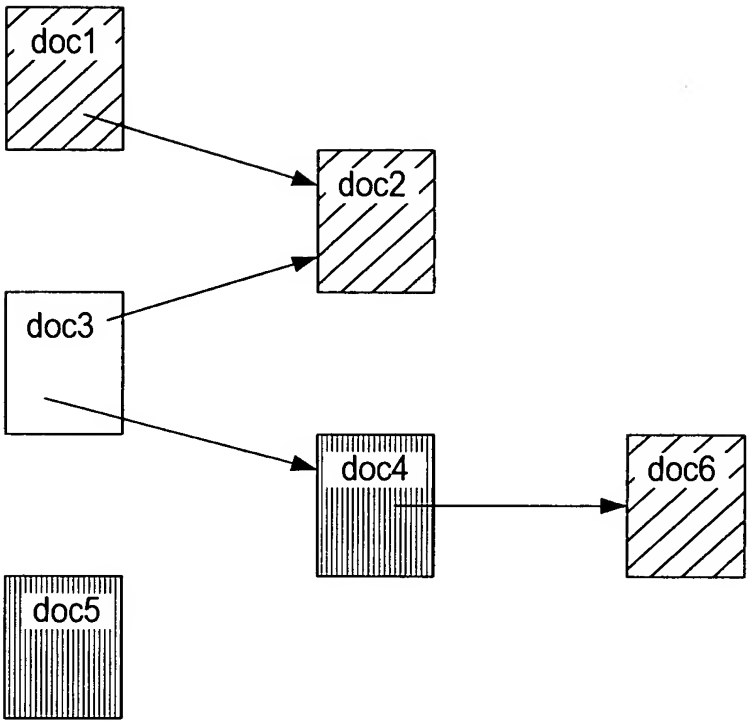


FIG.11

IDENTIFIER	REFERRING SOURCE DOCUMENT
doc1	
doc2	doc1, doc3
doc3	
doc4	doc3
doc5	
doc6	doc4

FIG.12

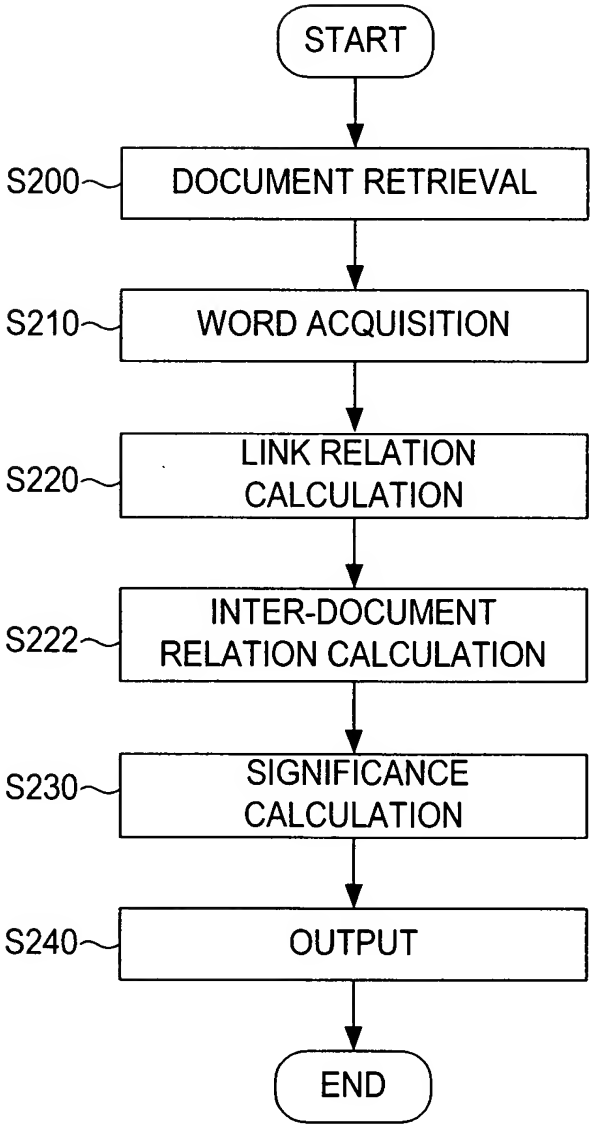

START
S200
DOCUMENT RETRIEVAL
S210
WORD ACQUISITION
S220
LINK RELATION CALCULATION
S222
INTER-DOCUMENT RELATION CALCULATION
S230
SIGNIFICANCE CALCULATION
S240
OUTPUT
END

FIG.13

IDENTIFIER	REFERRING SOURCE DOCUMENT		REFERRED DOCUMENT	
	DEPTH = 1	DEPTH = 2	DEPTH = 1	DEPTH = 2
doc1			doc2	
doc2	doc1, doc3			
doc3			doc2, doc4	doc6
doc4	doc3		doc6	
doc5				
doc6	doc4	doc3		

FIG.14

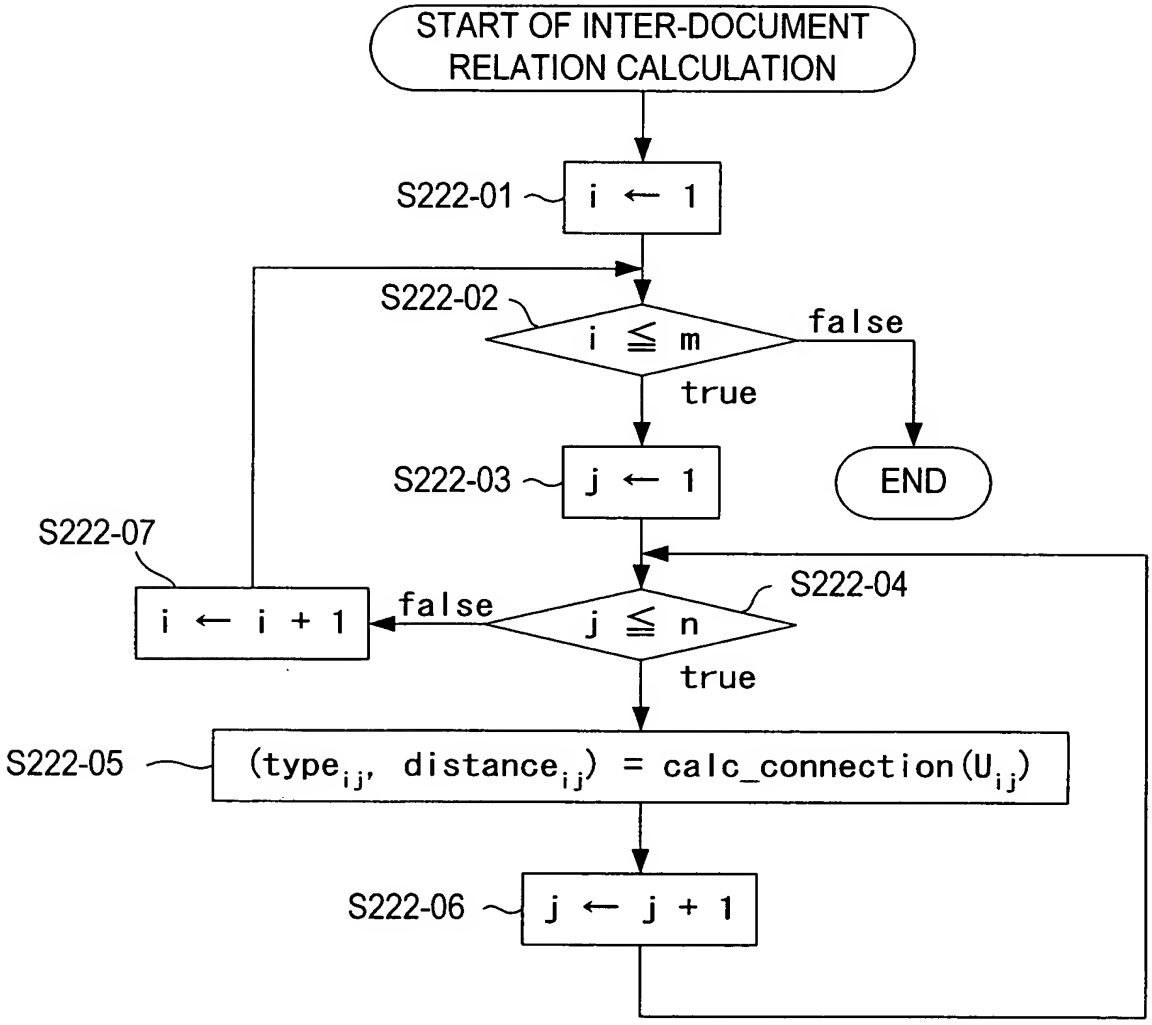
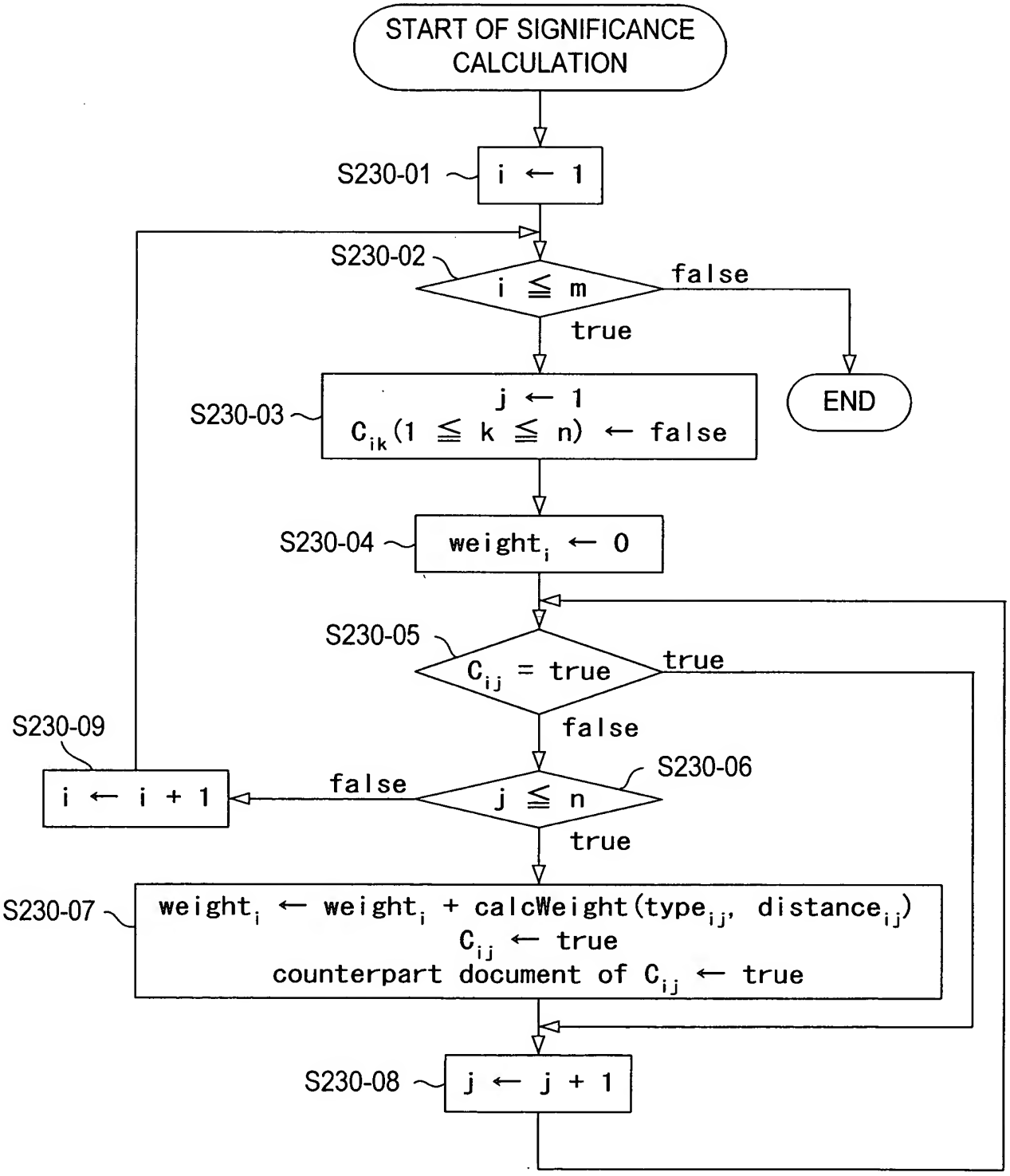

START OF INTER-DOCUMENT RELATION CALCULATION
S222-01
i ← 1
S222-02
i ≦ m
false
true
END
S222-03
j ← 1
S222-07
i ← i + 1
false
S222-04
j ≦ n
true
S222-05
(type_ij, distance_ij) = calc_connection(U_ij)
S222-06
j ← j + 1

FIG.15


START OF SIGNIFICANCE CALCULATION
S230-01
i ← 1
S230-02
i ≦ m
false
true
END
S230-03
j ← 1
C_ik (1 ≦ k ≦ n) ← false
S230-04
weight_i ← 0
S230-05
C_ij = true
true
false
S230-06
j ≦ n
false
S230-09
i ← i + 1
true
S230-07
weight_i ← weight_i + calcWeight(type_ij, distance_ij)
C_ij ← true
counterpart document of C_ij ← true
S230-08
j ← j + 1

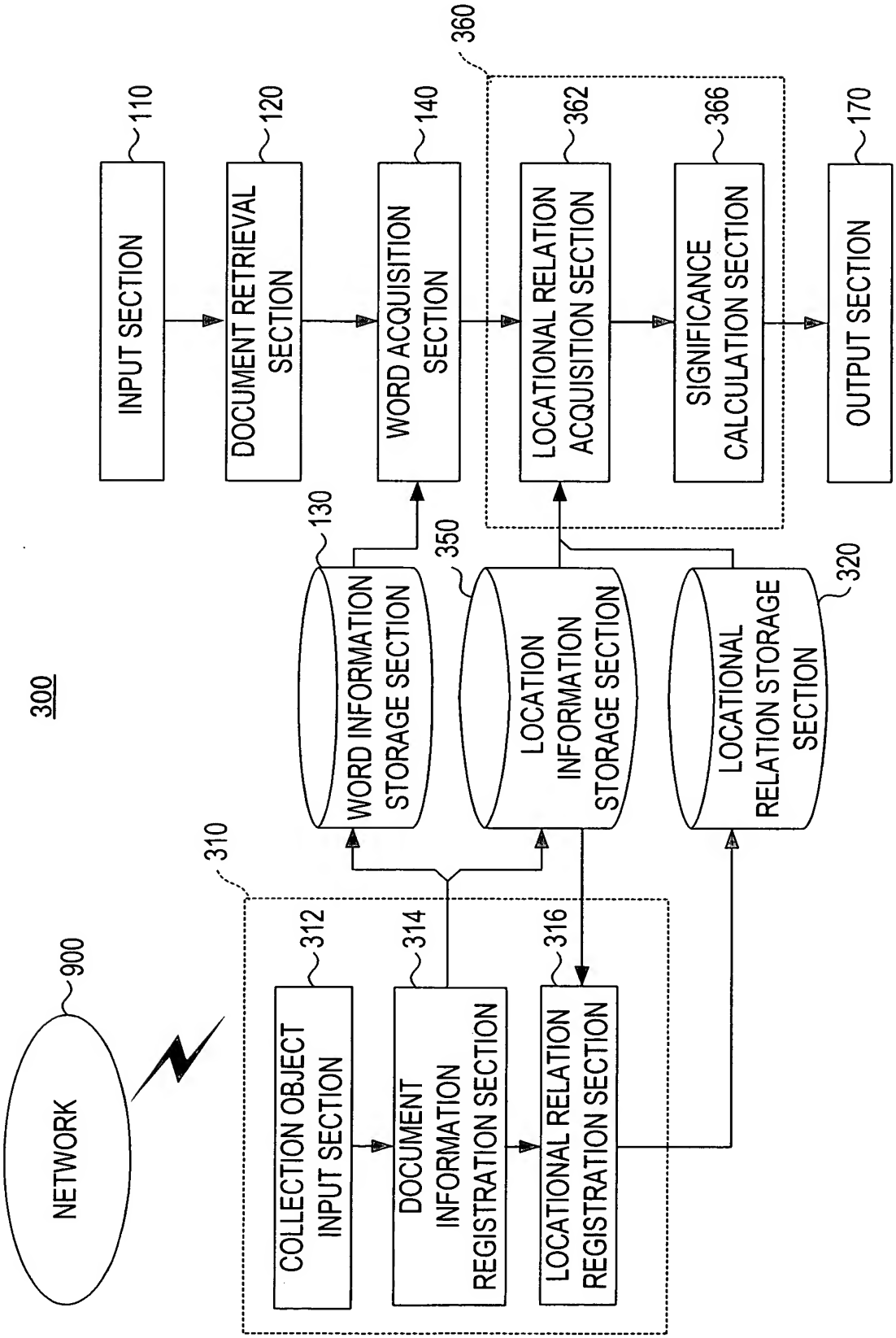
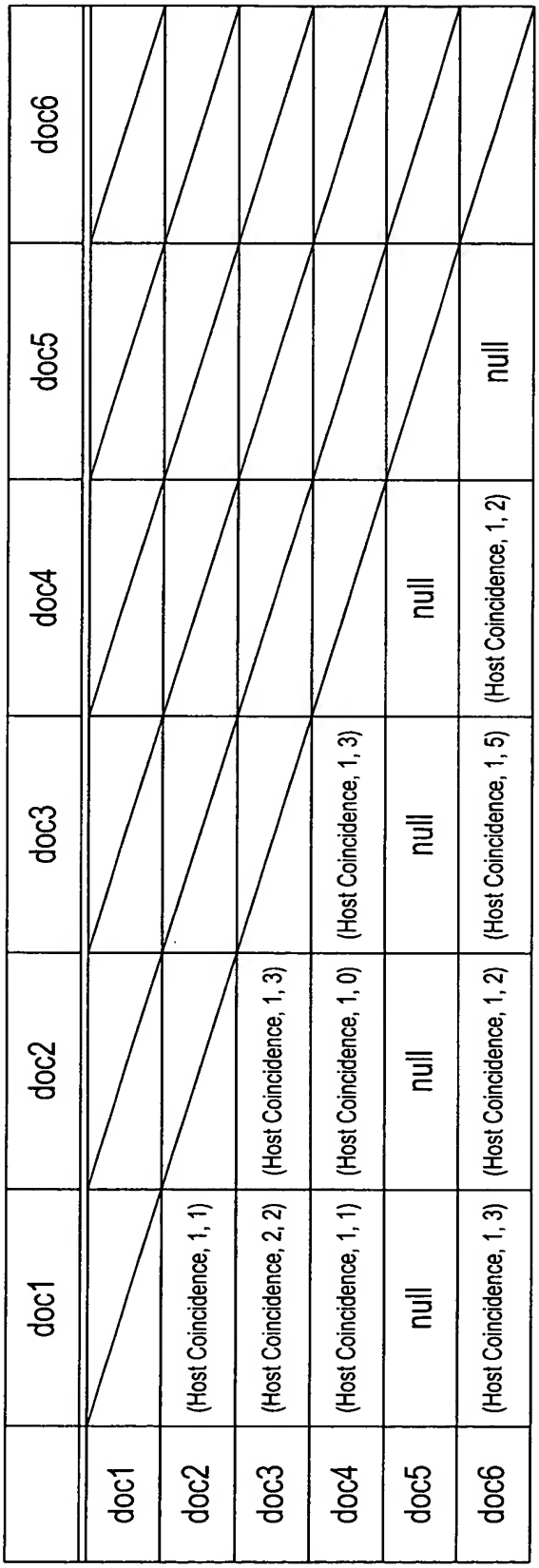

NETWORK
900
300
310
COLLECTION OBJECT INPUT SECTION
312
DOCUMENT INFORMATION REGISTRATION SECTION
314
LOCATIONAL RELATION REGISTRATION SECTION
316
WORD INFORMATION STORAGE SECTION
130
LOCATION INFORMATION STORAGE SECTION
350
LOCATIONAL RELATION STORAGE SECTION
320
360
INPUT SECTION
110
DOCUMENT RETRIEVAL SECTION
120
WORD ACQUISITION SECTION
140
LOCATIONAL RELATION ACQUISITION SECTION
362
SIGNIFICANCE CALCULATION SECTION
366
OUTPUT SECTION
170

FIG.16

FIG.17



	doc1	doc2	doc3	doc4	doc5	doc6
doc1						
doc2	(Host Coincidence, 1, 1)					
doc3	(Host Coincidence, 2, 2)	(Host Coincidence, 1, 3)				
doc4	(Host Coincidence, 1, 1)	(Host Coincidence, 1, 0)	(Host Coincidence, 1, 3)			
doc5	null	null	null	null		
doc6	(Host Coincidence, 1, 3)	(Host Coincidence, 1, 2)	(Host Coincidence, 1, 5)	(Host Coincidence, 1, 2)	null	

FIG.18

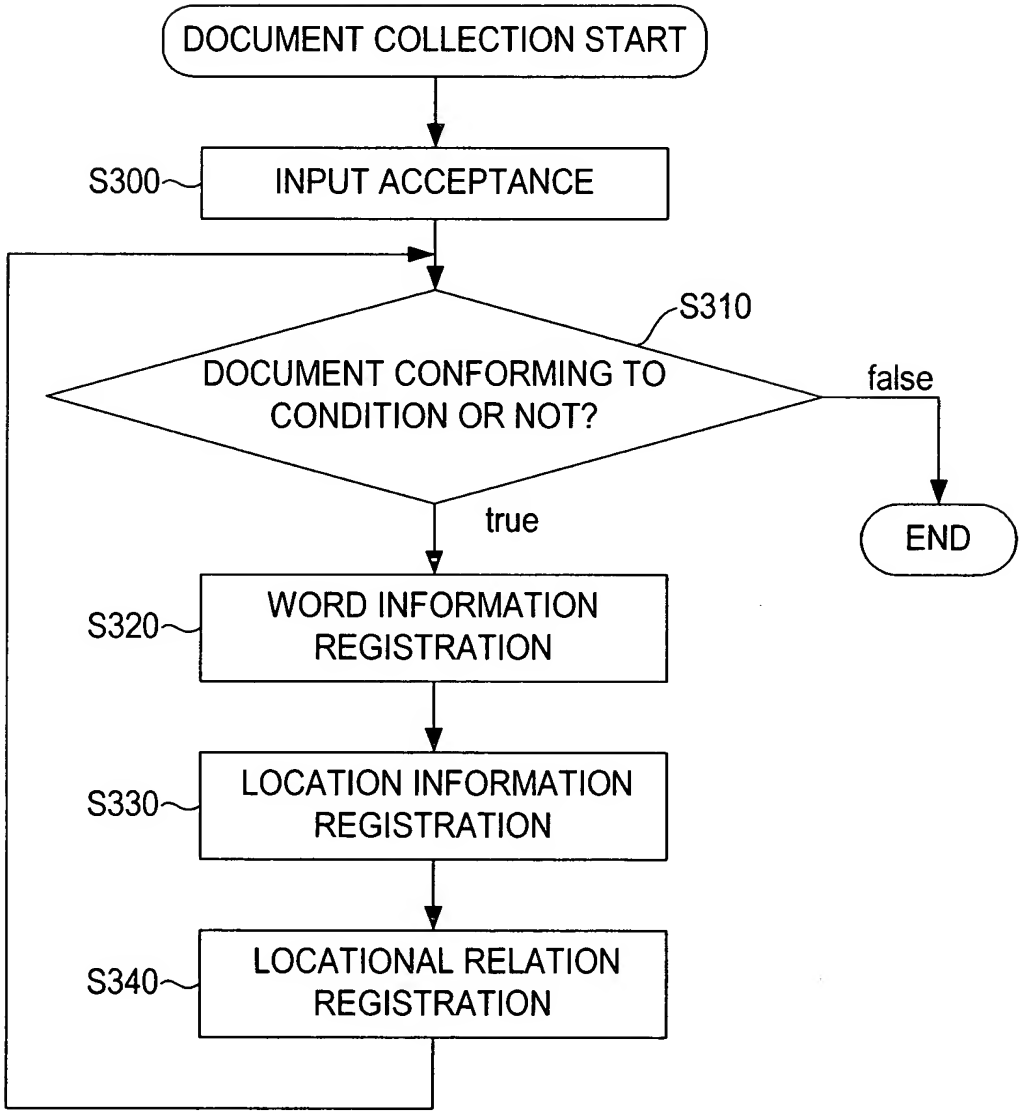
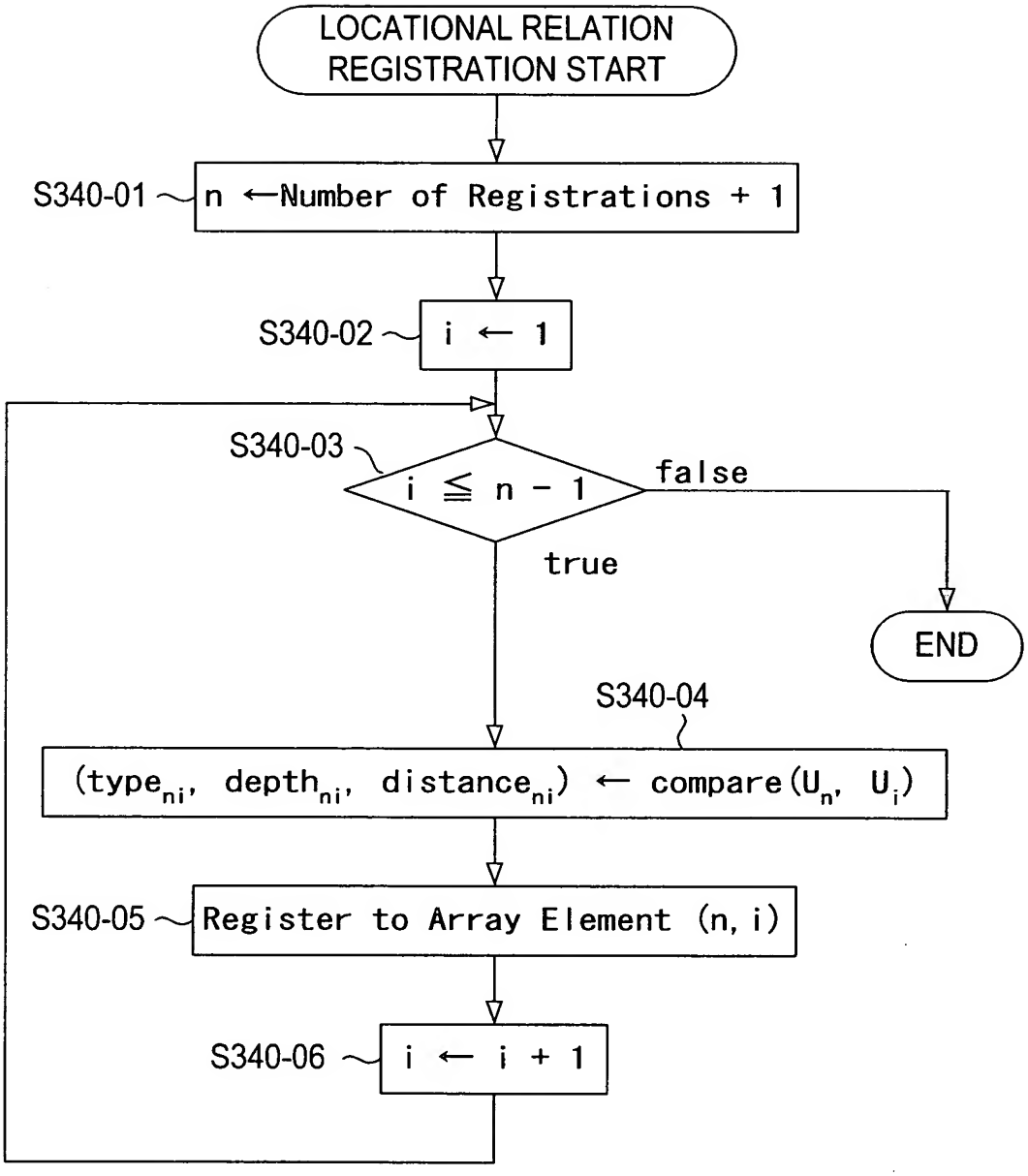

DOCUMENT COLLECTION START
S300
INPUT ACCEPTANCE
S310
DOCUMENT CONFORMING TO CONDITION OR NOT?
false
END
true
S320
WORD INFORMATION REGISTRATION
S330
LOCATION INFORMATION REGISTRATION
S340
LOCATIONAL RELATION REGISTRATION

FIG.19


LOCATIONAL RELATION REGISTRATION START
S340-01
n ←Number of Registrations + 1
S340-02
i ← 1
S340-03
i ≦ n - 1
false
true
END
S340-04
(type_ni, depth_ni, distance_ni) ← compare(U_n, U_i)
S340-05
Register to Array Element (n, i)
S340-06
i ← i + 1